

# COPY

## (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date  
7 April 2005 (07.04.2005)

PCT

(10) International Publication Number  
**WO 2005/030637 A1**

(51) International Patent Classification<sup>7</sup>: C01B 3/04, (74) Agent: ELLA CHEONG SPRUSON & FERGUSON (SINGAPORE) PTE LTD; P.O. Box 1531, Robinson Road Post Office, Singapore 903031 (SG).

(21) International Application Number: PCT/SG2004/000317

(22) International Filing Date: 29 September 2004 (29.09.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/507,548 2 October 2003 (02.10.2003) US  
60/571,804 17 May 2004 (17.05.2004) US

(71) Applicant (for all designated States except US): NATIONAL UNIVERSITY OF SINGAPORE [SG/SG]; 10 Kent Ridge Crescent, Singapore 119260 (SG).

(72) Inventors; and

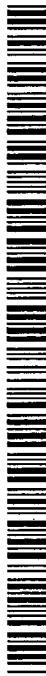
(75) Inventors/Applicants (for US only): CHEN, Ping [CN/SG]; 50D, Faber Heights, #02-20, Singapore 129198 (SG). XIONG, Zhitao [CN/SG]; Blk 510, #12-317, West Coast Drive, Singapore 120510 (SG).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AB, AG, AI, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

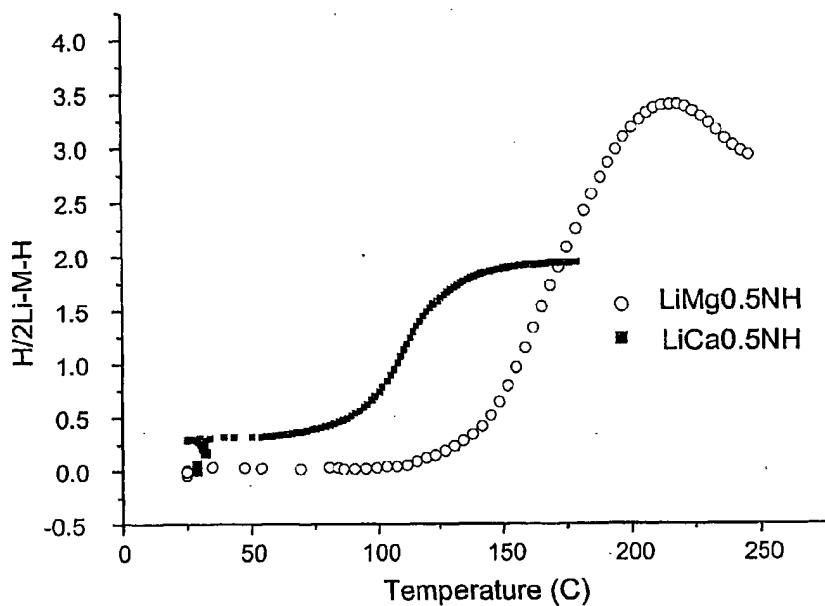
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

*[Continued on next page]*

(54) Title: MULTI-METAL-NITROGEN COMPOUNDS FOR USE IN HYDROGEN STORAGE MATERIALS



WO 2005/030637 A1



(57) Abstract: There is disclosed a multi-metal-nitrogen compound for use in hydrogen storage materials. The compound comprising two dissimilar metal atoms and a nitrogen atom. The multi-metal-nitrogen compound being capable of absorbing hydrogen at an absorption temperature and pressure, and of desorbing 60% or more by weight of said absorbed hydrogen at a desorption temperature and pressure.



**Published:**

- *with international search report*
- *with amended claims*

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*